Chapter 3

QUALIFYING LOCAL SWM PROGRAMS

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3.0 INTRODUCTION

To effectively deal with the problems of urban stormwater runoff and meet the regulatory requirements addressed in Chapter 2, Virginia communities need to adopt a comprehensive approach to stormwater management that ties together stormwater quantity control with water quality protection, protection of stream channels and riparian corridors, floodplain management, and the use of stormwater facilities for multiple purposes.

Given this broad charge, the development of a local stormwater management program often involves a *rethinking* about stormwater by local communities. Those responsible for stormwater management can no longer limit their mission to drainage and flood control. Instead, local government agencies need to broaden their mission to encompass these broader goals.

Urban stormwater runoff needs to be viewed as a valuable water resource that can and should be managed within the context of the locality and watershed as a whole. Furthermore, as all of the actions within a watershed ultimately impact Virginia's downstream waters, a holistic approach to stormwater management must be developed.

Local governments have a large responsibility for stormwater management in Virginia, since it is at the local level where land use, development and infrastructure decisions are typically made. The overall purposes of a local stormwater management program are to:

- Minimize the adverse impacts of stormwater runoff on the locality and individual properties;
- Meet the state and federal regulatory requirements for stormwater runoff quantity and quality management; and
- Ensure that the locality's priorities, needs and desires are taken into account in meeting stormwater management goals.

In addition, an effective local stormwater management program requires an institutional structure that includes the following:

- Adequate legal authority
- Performance standards for development
- Design guidance and assistance
- Program funding and staffing
- Commitment to enforcement
- Public education and citizen involvement
- Accountability

This chapter provides guidance regarding what is necessary for a locality to become authorized as a qualifying local stormwater management program, or Virginia Stormwater Management Program (VSMP) Authority, and the key components that need to be addressed by a VSMP. The components include but are not limited to administrative requirements, plan review, issuance of coverage under the VSMP general permit for discharges of stormwater from construction activities, inspection, enforcement, stormwater facility maintenance, and reporting.

3.1 BOARD AUTHORIZATION OF A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) AUTHORITY

The VSMP is a stormwater program administered by a local government which has been authorized by the Virginia Water Control Board (board) to administer, through a local ordinance, the elements of the General Permit for Discharges from Construction Activities (construction general permit). All Virginia counties and cities, as well as any towns subject to MS4 permits, are required by the Virginia Stormwater Management Act (Act) to adopt a VSMP. Incorporated towns not subject to MS4 permits have the option to adopt a VSMP, but if they do not, then land development within their jurisdiction will be subject to the VSMP of the county within which the town is located. If a town is on the border of two or more counties, it will be subject to the VSMP of the largest of those counties. Large and mid-sized Virginia localities with municipal separate storm sewer systems (MS4s, listed in **Table 3.1** below are subject to permit conditions pursuant to the Virginia Pollutant Discharge and Elimination System (VPDES), as set forth in Parts VI – XII (4 VAC 50-60-210 – 4 VAC 50-60-680) and Part XV (4 VAC 50-60-1200 - 4 VAC 50-60-1240) of the Virginia Stormwater Management Regulations. These localities should consider integrating their MS4 permit requirements, Erosion and Sediment Control requirements and, where applicable, Chesapeake Bay Preservation Act requirements into their VSMP.

Table 3.1. MS4 Localities in Virginia [1]

Type of Permit	Communities Subject to the Permit	
Phase I (Individual Permits)	Arlington County	Newport News (City)
	Chesapeake (City)	Norfolk (City)
	Chesterfield County	Portsmouth (City)
	Fairfax County	Prince William County
	Hampton (City)	Virginia Beach (City)
	Henrico County	
Phase II (General Permits)	Abingdon (Town)	Loudoun County
	Albermarle County	Lynchburg (City)
	Alexandria (City)	Manassas (City)
	Ashland (Town)	Manassas Park (City)
	Blacksburg (Town)	Montgomery County
	Botetourt County	Petersburg (City)
	Bridgewater (Town)	Poquoson (City)
	Bristol (City)	Radford (City)
	Charlottesville (City)	Richmond (City)
	Christiansburg (Town)	Roanoke (City)
	Colonial Heights (City)	Roanoke County
	Danville (City)	Salem (City)
	Dumfries (Town)	Spotsylvania County
	Fairfax (City)	Stafford County
	Falls Church (City)	Staunton (City)
	Fredericksburg (City)	Suffolk (City)
	Hanover County	Vienna (Town)
	Harrisonburg (City)	Vinton (Town)
	Herndon (Town)	Warrenton (Town)
	Hopewell (City)	Waynesboro (City)
	Isle of Wight County	Williamsburg (City)
	James City County	Winchester (City)
	Leesburg (Town)	York County

[1] List current as of summer 2013

Based on a schedule established by the board, the above specified localities are required to adopt local VSMPs no sooner than 15 months but no later than 21 months following the effective date of the latest revision of the VSMP permit regulations (September 13, 2011), which establishes local program criteria and delegation procedures. The board may provide a locality an extension of up to an additional 12 months, provided the board's or its designee's review of the VSMP warrants an extension and the locality has made substantive progress towards adoption.

Each locality adopting a VSMP must submit a complete application package for review by the board or its designee. The information contained in the application package must demonstrate that the locality will administer the VSMP in a manner consistent with the requirements of the Act and VSMP permit regulations.

The application package must include:

1. The draft VSMP ordinance(s) as required in 4 VAC 50-60-148;
2. A funding and staffing plan;
3. The policies and procedures including, but not limited to, agreements with Soil and Water Conservation Districts, adjacent localities, or other public or private entities for the administration, plan review, inspection, and enforcement components of the program; and
4. Such ordinances, plans, policies, and procedures must account for any town lying within the county as part of the locality's VSMP program unless such towns choose to adopt their own program.

The board or its designee will have 20 calendar days to review the application package for completeness. If the application package is not complete, the locality will be notified in writing the reason the application package is considered incomplete. Once an application is determined to be complete the review period is 90 calendar days. The application will be reviewed for compliance with the Act and the VSMP permit regulations. During the review period, the locality will be notified by the board or its designee in writing, approving, disapproving, or time extension for reviewing the application. If an application is disapproved, the notification will include an explanation as to why the application was disapproved.

3.2 VSMP ADMINISTRATION (4 VAC 50-60-148)

To be a VSMP Authority, a locality needs to adopt a stormwater management ordinance. The ordinance provides the legal foundation for program implementation, compliance determinations, and enforcement of the local program requirements. A model ordinance is provided on the Department's website at:

http://www.deq.virginia.gov/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx

This can be used to assist localities in developing their own ordinances. The local ordinance must include the following elements:

1. Identification of the authority accepting complete registration statements and of the authorities completing plan review, plan approval, inspection, and enforcement;

2. Submission and approval of erosion and sediment control plans in accordance with the Virginia Erosion and Sediment Control Law and attendant regulations and the submission and approval of stormwater management plans;
3. Requirements to ensure compliance with 4 VAC 50-60-54, 4 VAC 50-60-55, and 4 VAC 50-60-56 of the VSMP regulations;
4. Requirements for inspections and monitoring of construction activities by the operator for compliance with local ordinances;
5. Requirements for long-term inspection and maintenance of stormwater management facilities;
6. Enforcement procedures and civil penalties where applicable;

The VSMP Authority may require a permittee to provide a bond or other financial surety in accordance with § 10.1-603.8 of the Act to ensure that corrective actions could be taken by the VSMP Authority at the permittee's expense if, after proper notice and a specified time, the permittee does not take corrective actions to meet the conditions of the CGP. If the locality is going to require a financial surety it needs to be included in the ordinance, as well as a provision that the financial surety will be refunded within 60 days of the completion of the requirements of the CGP.

3.3 PLAN REVIEW (4 VAC 50-60-108 et seq.)

A VSMP Authority must require the submission of a complete stormwater management plan for review and approval prior to commencement of a land-disturbing activity. **Appendix 6-A** in **Chapter 6** of this Handbook describes the general procedures for preparation of a stormwater management site plan and supporting documentation. The following steps are suggested to provide a locality with a review process and checkpoints that complement the procedure from the site developer's perspective.

1. **Pre-Application Conference.** This is an optional step that can help communicate the local program requirements and procedures from various local departments at one time to an applicant and help to avoid confusion and missteps during the process.
2. **Review of the Stormwater Concept Plan.** This is also an optional step but, again, a very helpful one aimed at developing an optimum stormwater management plan for the site.
3. **Review a Preliminary Stormwater Management Site Plan.** This is also an optional step that helps to fine-tune the SWM plan prior to committing it to final design.

> **NOTE:** The three steps above are dependent on the local government having sufficient staff to invest time in additional meetings that help to guide proposed projects to more effective outcomes from the perspective of managing stormwater. These steps also depend on the developer's willingness to spend additional money at the concept and design stages and his recognition of a benefit to the project through the greater likelihood of a smoother approval and project oversight process.

4. **Review of Final Stormwater Site Plan.** In the absence of the above interactions, there is a lot invested in the final plans submitted for review. If there are mistakes in the designs or if

alternative designs might have produced better outcomes at lower cost, this is a late stage to learn that.

5. **Pre-Construction Meeting.** This is an optional meeting as well, but it is strongly recommended, especially if there was no initial consultation and joint site visit. It is very useful to have the local regulators walk the site with the design consultants and contractors to discuss how the plans will be implemented and identify key pitfalls to avoid.

3.3.1 Pre-Application Meeting

Perhaps the most important action that can take place at the beginning of the development project is a pre-consultation meeting between the local plan review authority and the developer and his team. The goal is to outline the stormwater management and other applicable local requirements, and to assist the developer in assessing constraints, opportunities, and the potential for integrating environmental site design concepts. This is an optional step, but very helpful in identifying key issues and helping the developer to avoid time-consuming and costly missteps.

This recommended step helps to establish a constructive partnership throughout the development process. A joint site visit, if feasible, can yield a conceptual outline of the stormwater management plan and strategies. By walking the site, the two parties can identify and anticipate problems, define general expectations, and establish general boundaries of natural feature protection and conservation areas. A major incentive for pre-consultation is that permitting and plan approval requirements will become clear at an early stage, increasing the likelihood that the approval process will proceed faster and more smoothly and reducing the opportunity for unexpected surprises that can throw a project off track.

The site developer should be made familiar with the local stormwater management and other development requirements and the design criteria that apply to the site. These may include:

- Minimum design and performance standards for stormwater management
- Design storm frequencies
- Conveyance design criteria
- Floodplain criteria
- Buffer/setback criteria
- State and federal wetlands regulations
- Local TMDL requirements
- Erosion and sediment control requirements
- Maintenance requirements
- The need for physical site evaluations (infiltration tests, geotechnical evaluations, etc.)

This guidance could be provided to the developer at the pre-application meeting and should be detailed in various local ordinances (e.g., subdivision codes, stormwater management and drainage codes, etc.). This information could also be contained in a set of checklists provided to the developer. **Appendix 3-E** contains example checklists outlining the recommended steps to prepare preliminary and final stormwater management site plans.

Current land use plans, comprehensive plans, zoning ordinances, road and utility plans, floodplain regulations, watershed or overlay districts, and public facility plans should all be consulted to determine the need for compliance with other local and state regulatory requirements. Opportunities for special types of development (e.g., clustering, etc.) or special land use opportunities (e.g., conservation easements or tax incentives, etc.) should be investigated. There may also be an ability to partner with the site developer in the development of greenways or open-space parks.

3.3.2 Review the Stormwater Management Concept Plan

During the concept plan stage, the site designer will perform most of the layout of the site, including the preliminary stormwater management system design and layout. The stormwater concept plan allows the design engineer to propose a potential site layout and gives the developer and local authorities a "first look" at the stormwater management system for the proposed development. Where the locality chooses to engage in this step, the stormwater concept plan should be submitted to the local plan review authority for feedback before detailed preliminary site plans are developed.

It is extremely important at this stage that the stormwater design is integrated into the overall site design concept in order to best reduce the impacts of the development as well as provide for the most cost-effective and environmentally sensitive approach to minimizing and managing runoff from the site.

3.3.3 Review the Initial or Preliminary Stormwater Management Site Plan

Preliminary stormwater management plans are typically limited to clearing and grading of the site unless the VSMP Authority allows for other construction activities in the plan. An initial plan may be submitted for review by the VSMP Authority with an erosion and sediment control plan, preliminary stormwater design for current and future construction activity and other information normally part of a complete plan as required by the VSMP.

The preliminary plan ensures – prior to submitting final plans – that all local requirements and criteria are being complied with and that opportunities are being taken to minimize adverse impacts from the development. The preliminary stormwater management site plan should consist of maps, narrative, and supporting design calculations (both hydrologic and hydraulic) for the proposed stormwater management system, including the following elements from **Section 3.5.4** below:

- A hydrologic analysis for the existing conditions at the site (pre-development)
- A post-development hydrologic analysis
- The stormwater management system design
- A downstream analysis

The applicant should demonstrate that appropriate and effective stormwater control measures have been selected and adequately designed. The preliminary plan should also include, among other things, street and site layout, delineation of natural feature protection and conservation

areas, soils data, existing and proposed topography, relation of the site to upstream drainage, limits of clearing and grading, and proposed methods to manage and maintain conservation areas (e.g., easements, maintenance agreements/responsibilities, etc.)

3.3.4 Review the Final Stormwater Management Site Plan

The final stormwater management site plan adds further detail to the preliminary plan and reflects changes that are requested or required by the local review authority. The final stormwater site plan should include all of the revised elements from the preliminary plan as well as the following:

- Erosion and Sediment Control Plan
- Landscaping Plan
- Operations and Maintenance Agreement/Plan
- Evidence of Acquisition of Applicable Local and State/Federal Permits
- Waiver/Exception Requests

This process may be iterative. The reviewer should ensure that all submittal requirements have been satisfactorily addressed and permits, and pertinent legal agreements (e.g., maintenance agreements, easements, performance bonds, etc.) have been obtained and/or executed.

The completed final stormwater site plan should be submitted to the local plan review authority for final approval *prior to* any construction activities on the development site. Approval of the final plan is the last major milestone in the stormwater planning process. The remaining steps ensure that the plan is implemented as approved, and the facilities are installed and maintained properly.

As noted above, the VSMP Authority may allow a Stormwater Concept Plan or a Preliminary Stormwater Management Plan to be submitted for discussion, review and approval. However, a complete Final Stormwater Management Plan is still required to be submitted for review even if a VSMP Authority allows and approves a preliminary plan. The fee form can be found at:

http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx

Fifty percent (50%) of the of the required CGP fee is required to be submitted for complete or initial plans.

The VSMP Authority must determine the completeness of a stormwater management plan and notify the applicant within 15 calendars days of receipt of the plan that it is either complete or incomplete. If the plan is incomplete, the applicant must be notified in writing by the VSMP Authority of the reason(s) the plan is incomplete and what is specifically needed to make it complete. If the plan is complete and the applicant is notified of that determination within 15 calendar days of the plan's receipt, the VSMP Authority has an additional 60 calendar days from the date of notification to complete the review of the plan. If a determination of completeness is not made by the VSMP Authority and the applicant is not notified within 15 days of the plan's receipt, the stormwater management plan shall be considered complete as of the date of

submission, and the VSMP Authority will have a total of 60 calendar days from that date to complete the review of the plan.

During this review period, the stormwater management plan must be approved or disapproved by the VSMP Authority. Approval or denial is based on the plan's compliance with the requirements in the state regulations/local ordinance. The applicant or his/her designated agent must be notified in writing by the VSMP Authority of the final decision. If the plan is not approved, the reason(s) for not approving the plan must be provided in the notification. If a plan meets all requirements when submitted but no action is taken or notification given by the VSMP Authority within the time specified above, the plan shall be deemed approved. The VSMP Authority must act within 45 days on any plan that has been previously disapproved and resubmitted.

After a stormwater management plan has been approved by the VSMP Authority, the applicant or his/her designated agent may request permission to modify the plan. The VSMP Authority has 60 calendar days to respond in writing, either approving or disapproving the request. The VSMP Authority may also require modifications to the approved plan to address deficiencies noted during an inspection.

To be considered complete, the plan must contain all of the following information (4 VAC 50-60-55 B):

- Information on the type of and location of stormwater discharges, information on the features to which stormwater is being discharged including surface waters or karst features if present, and predevelopment and post-development drainage areas;
- Contact information including the name, address, and telephone number of the owner and the tax reference number and parcel number of the property or properties affected;
- A narrative that includes a description of current site conditions and final site conditions or if allowed by the stormwater program administrative authority, the information provided and documented during the review process that addresses the current and final site conditions;
- A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete;
- Information on the proposed stormwater management facilities, including the type of facilities, location, including geographic coordinates, acres treated, and the surface waters or karst features into which the facility will discharge;
- Hydrologic and hydraulic computations;
- Documentation and calculations verifying compliance with the water quality and quantity requirements of these regulations;
- A map or maps of the site that depicts the topography of the site and includes:
  - All contributing drainage areas;
  - Existing streams, ponds, culverts, ditches, wetlands, and other water bodies;
  - Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
  - Current land use including existing structures, roads, and locations of known utilities and easements;
  - Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;

- The limits of clearing and grading, and the proposed drainage patterns on the site;
- Proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
- Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements.

The VSMP Authority could provide guidance for developers and their consultants on site plan preparation via handout or web link as a useful tool to help ensure that submitted plans are complete and meet the requirements of the regulations.

3.3.5 Pre-Construction Meeting

This step provides an opportunity to ensure that all involved parties –the contractor, design consultant(s), inspector, and plan reviewer –understand how the plan will be implemented on the site. A pre-construction meeting should occur before any clearing or grading is initiated on the site. This is the appropriate time to ensure that natural feature protection areas and limits of disturbance have been adequately staked and adequate erosion and sediment control measures are in place or ready to be installed. The sequence of construction should also be discussed, noting that permanent SWM BMPs should be constructed late in the process, after their contributing drainage areas are stabilized. This timing will minimize potential sediment delivery to these facilities and potential clogging of filter/infiltration media.

3.4 AUTHORIZATION OF COVERAGE UNDER THE CONSTRUCTION GENERAL PERMIT (CGP) (4 VAC 50-60-1170)

Prior to the VSMP Authority notifying the applicant that VSMP Construction General Permit (CGP) coverage has been authorized, the applicant must have completed the following:

- Obtained approved of an initial or complete stormwater management plan;
- Submitted a proposed right-of-entry agreement or easement(s) from the owner, for purposes of inspection and maintenance;
- Submitted proposed maintenance agreement(s) with inspection schedule(s);
- Submitted a complete registration statement for the CGP; and
- Submitted the required fee form and fee.

The VSMP Authority must notify the applicant if the submitted registration statement is incomplete within 15 working days of its receipt by the VSMP. The notification must (1) identify what information is required to be submitted to complete the registration statement and (2) clarify that the land-disturbing activity does not have coverage under the CGP until that information is provided. Coverage or termination of coverage shall be authorized through a standardized database or other method provided by the DEQ. At a minimum, the database must

include the permit number, operator name and contact information (address, telephone number and email address), activity name, number of acres disturbed, date of permit coverage, and site address and location, as well as the date of the termination of coverage.

3.5 INSPECTIONS (4 VAC 50-60-114 et seq.)

Construction sites should be inspected periodically by local agencies to ensure that the project is being built in accordance with the approved designs and that conservation areas have been adequately protected. Inspection frequency may vary with regard to site size and location. In addition, it is recommended that some inspections occur after significant storm events (e.g., 1/2 inch and greater). The inspection process should prevent subsequent problems that could result in environmental damage, added costs or penalties for developers. An added benefit of a formalized and regular inspection process is that it should help to motivate contractors to internalize regular maintenance of sediment controls as part of the daily construction operations.

The VSMP Authority or its designee is responsible for inspecting the land-disturbing activity during construction for compliance with the VSMP permit. Since a locality is responsible for erosion and sediment control (ESC) inspections, inspections for compliance with the VSMP permit may be conducted in conjunction with the locality's ESC inspections.

In accordance with the VSMP regulations, the locality administering an approved VSMP program must:

A. Inspect the land-disturbing activity during construction for:
   1. Compliance with the approved erosion and sediment control plan;
   2. Compliance with the approved stormwater management plan;
   3. Development, updating, and implementation of a pollution prevention plan; and
   4. Development and implementation of any additional control measures necessary to address a TMDL.

B. Establish an inspection program that ensures that stormwater management facilities are being adequately maintained and be documented by records.

A final inspection is needed to ensure that the construction conforms to the intent of the approved design. Prior to issuing an occupancy permit and releasing any applicable bonds, the review authority should ensure that: (1) temporary erosion control measures have been removed; (2) stormwater controls are unobstructed and in good working order; (3) permanent vegetative cover has been established in areas of exposed soil; (4) any damage to natural feature protection and conservation areas has been repaired or restored; (5) conservation areas and buffers have been adequately marked or signed; and (6) any other applicable conditions have been met.

As-built drawings of the structural stormwater control measures and drainage facilities should also be acquired by the locality, since these are important in the long-term maintenance of the facilities. The review authority should keep copies of these drawings and associated documents

in the local stormwater control inventory and data storage system. With GIS and CAD systems becoming more widely used, much of these data can be stored electronically.

As discussed in **Section 3.8** below and in **Chapter 9**, *ongoing* inspection and maintenance of stormwater management facilities is often the weakest component of stormwater management systems. The stormwater management plan and maintenance agreement must clearly establish which entity has responsibility for operation and maintenance (O&M) of all stormwater control measures and drainage facilities. Typically, the responsibility for maintenance is transferred from the developer and contractor to the property owner. Communication about this important responsibility is usually inadequate; therefore, localities may need to consider ways to notify property owners of their responsibilities. For example, notification can be made through a legal disclosure upon sale or transfer of property, or public outreach programs may be instituted to describe the purpose and value of maintenance.

The VSMP Authority must establish an O&M inspection program that will ensure stormwater management facilities continue to be maintained and to function as designed. The O&M inspection procedures developed by the VSMP Authority must be submitted to the Virginia State Water Control Board for review and approval prior to local program implementation. These inspection procedures must be enforceable and meet the intent of the VSMP permit regulations.

The O&M inspection program must also require that, after completion of construction, the owner(s) of stormwater management facilities conduct inspections in accordance with an inspection schedule in the recorded maintenance agreement(s), and submit written inspection and maintenance reports to the VSMP Authority upon request. Of course, the VSMP Authority has the option of taking responsibility for all or a portion of post-construction BMP inspection and maintenance if sufficient staffing and funding are available (perhaps through a stormwater utility).

The VSMP Authority's O&M inspection program needs to be based on a system of priorities that takes into consideration the purpose and type of the facility, ownership and the existence of a recorded maintenance agreement and inspection schedule, the contributing drainage area, and downstream conditions. In addition, each stormwater management facility must be inspected by the VSMP Authority or its designee at least every five years. The VSMP Authority must generate and keep on file an inspection report for each stormwater management facility inspected by the VSMP Authority or its designee.

Inspections of stormwater management facilities are normally conducted by the locality. However, a VSMP Authority may use the stormwater management facility owner's inspection report, provided the inspection was conducted by a person who is licensed as a professional engineer, architect, certified landscape architect or land surveyor pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia, or who holds a certificate of competence from the board. In addition, the owner's inspection and report must be consistent with the board approved local inspection program procedures and kept on file by the VSMP Authority.

3.6 ENFORCEMENT (4 VAC 50-60-116 - 118 et seq.)

A VSMP Authority must develop policies and procedures that outline the steps to be taken to enforce compliance pursuant to the Act, VSMP regulations, and the local ordinance. A stormwater program administrative authority may use the *Stormwater Management Enforcement Manual* as guidance in establishing policies and procedures. This *Manual* is on the Department's website at:

http://www.deq.virginia.gov/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx

The enforcement program developed by the local VSMP Authority may include separate informal (e.g., inspection reports, notices to comply, etc.) and formal (e.g., notices of corrective actions, consent orders, and emergency special orders, etc.) administrative procedures. In addition, the enforcement program may include procedures for civil penalties, criminal penalties, and injunctions.

3.7 STORMWATER MANAGEMENT FACILITY MAINTENANCE (4 VAC 50-60-112 et seq.)

An essential component of a comprehensive stormwater management program is the ongoing operation and maintenance of the various components of the stormwater drainage, control, and conveyance systems. Failure to provide effective maintenance can reduce the hydraulic capacity and the pollutant removal efficiency of BMPs and conveyance systems. Historically, many localities have not ensured adequate on-going maintenance of BMPs, to the detriment of local water quality.

The question is not whether stormwater management system maintenance is necessary in a locality. Rather, the question is how a locality's maintenance programs will be budgeted, staffed and administered, and who has responsibility for managing inspections, scheduling periodic required maintenance, and funding remedial work. *Ideally, a VSMP Authority should address operations and maintenance concerns proactively, instead of reacting after the fact to problems that occur, such as flooding or water quality degradation.*

Operations and maintenance activities can include cleaning and maintenance of catch basins, drainage swales, open channels, storm sewer pipes, stormwater ponds, and other structural controls. Other pollution reduction activities (e.g., street sweeping, illicit discharge identification and removal, etc.) also fall under operations and maintenance activities. Stormwater system operations and maintenance can also include restoring degraded stream channels and banks and retrofitting existing development with BMPs to meet water quality and/or water quantity goals of the locality.

A clear assignment of stormwater inspection and maintenance responsibilities – whether accomplished by the local government, land owners, private concerns, or a combination of these – is essential to ensuring that stormwater management systems function as they were intended. It is imperative that localities require the maintenance of private stormwater systems and develop the necessary legal framework to ensure compliance.

The VSMP Authority must require the person responsible for the land-disturbing activity or his/her designated agent to submit construction record drawings for permanent stormwater management facilities. The drawings must be appropriately sealed and signed by an appropriate professional, in accordance with all minimum standards and requirements pertaining to that person's professional discipline, certifying that the stormwater management facilities have been constructed in accordance with the plan approved by the VSMP Authority. The VSMP Authority must have the construction record drawings and certification on file *prior to* the release of the portion of the performance bond or surety associated with the stormwater management facility.

The responsibility for operation and maintenance of stormwater management facilities remains with the property owner or other legally established entity and passes to any successor, unless assumed by the VSMP Authority. In accordance with the VSMP Regulations, the VSMP authority must require long term responsibility for and maintenance of stormwater management facilities set forth in an instrument such as a BMP maintenance agreement that is recorded in the local land records. Such agreements must:

1. Be submitted to the VSMP authority for review and approval prior to the approval of the stormwater management plan;
2. Be stated to run with the land;
3. Provide for all necessary access to the property for purposes of maintenance and regulatory inspections;
4. Provide for inspections and maintenance and the submission of inspection and maintenance reports to the VSMP authority; and
5. Be enforceable by all appropriate governmental parties.

The owner must notify the VSMP Authority of any transfer or conveyance of ownership or responsibility for maintenance of a stormwater management facility. The VSMP Authority must also require a BMP maintenance agreement from the property owner and be a party to each maintenance agreement.

As authorized by § 15.2-906 of the Code of Virginia, the agreement may also contain provisions specifying that the VSMP Authority may perform the necessary maintenance and repairs and recover the costs from the owner where:

- Maintenance or repair of a stormwater management facility located on the owner's property is neglected; or
- The stormwater management facility becomes a public health or safety concern and the owner has failed to perform the necessary maintenance and repairs, after receiving notice from the locality.

In the specific case of a public health or safety danger, the agreement may state that the VSMP Authority's written notice to the owner may be waived by the locality. **Chapter 9** of this Handbook provides much more specific information about BMP maintenance and local government maintenance programs.

3.8 REPORTING AND RECORD KEEPING (4 VAC 50-60-126 et seq.)

The VSMP Authority is required to provide the following information to the Department on a fiscal year basis (July 1 to June 30) by October 1st of each year, in a format specified by the Department:

- Pertinent information regarding each permanent stormwater management facility completed during the fiscal year, to include the following:
  - The type of stormwater management facility;
  - The facility's geographic or GPS coordinates;
  - Acres treated; and
  - The surface waters or karst features into which the stormwater management facility will discharge.
- The number and type of enforcement actions taken during the fiscal year; and
- The number of exceptions applied for and the number granted or denied during the fiscal year.

The VSMP Authority must maintain CGP files for three (3) years following permit termination. After three years, the CGP files are to be delivered to the DEQ by October 1st of each year. The VSMP authority needs to maintain stormwater facility maintenance inspection reports on file for five (5) years from the date of inspection. Stormwater maintenance agreements, design standards and specifications, post-construction surveys/as-built drawings, and maintenance records must be maintained in perpetuity by the VSMP Authority.

DEQ will have an online enterprise database into which VSMP Authorities can input local stormwater program and permit data. This will enable DEQ to gather and generate reports on critical information, such as types of BMPs being installed, the drainage area they serve, and total pollution loads being removed. This capability should result in a minimization of additional reporting by localities. Integrating local stormwater management into the local GIS System may also make the generation of reports easier, especially if the GIS system is linked to a database.

3.9 REFERENCES

Atlanta Regional Commission (ARC). 2001. *Georgia Stormwater Management Manual*. Prepared by AMEC, the Center for Watershed Protection, Debo and Associates, Jordan Jones and Goulding, and the Atlanta Regional Commission. Atlanta, Georgia.

Center for Watershed Protection (CWP). July 2008. *Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program*. Ellicott City, MD. available at: http://www.cwp.org/Resource_Library/Center_Docs/SW/pcguidance/Manual/PostConstructionManual.pdf